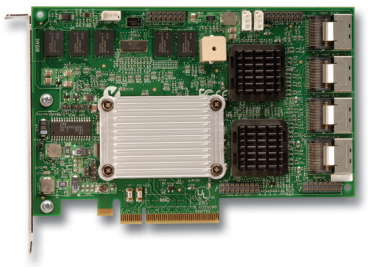
Product Brief

MegaRAID® SAS 84016E

16-port 3Gb/s PCI Express SAS/SATA RAID Adapter



FEATURES

- Sixteen internal SAS / SATA ports
  - Four x4 SAS SFF8087 internal connectors
- 64-bit LBA (>2TB support)
- 3Gb/s throughput per port
- RAID Levels 0, 1, 5, 6, 10, 50 and 60
- PCI Express 1.0a compliant
  - 2.5 Gb/s per lane
  - x8 lane width
- 256MB DDRII 400MHz SDRAM
- Optional battery backup module
  - Rated 72 hours
- Auto-resume on rebuild
- Auto-resume on reconstruction
- Online Capacity Expansion (OCE)
- Online RAID Level Migration (RLM)
- Comprehensive management tools
- LED fault indicator headers

High Port-Count RAID for Direct Connecting Up to 16 SATA or SAS Drives

KEY ADVANTAGES

- 16 internal SAS/SATA ports
- Maximum drive flexibility for using both SAS and SATA II drives
- PCI Express host interface for increased bandwidth
- Proven, industry-leading MegaRAID stack
- Advanced RAID management application suite

Market Leading Performance and Reliability

The growing requirement to store huge amounts of data with uninterrupted availability and reliability calls for a high-density point-to-point RAID storage solution. The MegaRAID SAS 84016E, the latest SAS/SATA offering from LSI, addresses any data availability concerns associated with deploying large number of drives in mission-critical environments. It allows system builders to direct-connect up to 16 SATA II and/or SAS drives. Also, by leveraging SAS expander technology, this adapter can support up to 122 physical devices for the most data-intensive environments.

Designed for greater performance, the MegaRAID SAS 84016E uses two LSI SAS1068 controllers, a 500MHz Intel processor, 256MB DDRII memory and a PCI Express host interface. In addition to supporting all key RAID levels and a battery backup, LSI offers advanced data protection features such as Check Consistency, Patrol Read and background sentry services that find and correct bad media blocks on disk drives.

Advanced RAID Management

The MegaRAID Management Suite™ provides the essential software tools to efficiently manage MegaRAID products. Whether deployed in an enterprise or small business, LSI offers a collection of applications and tools including a pre-boot setup utility as well a full spectrum of online RAID management utilities. This new suite of applications allows administrators to adjust SAS topology views from the system host, controller and disk enclosure down to the logical and physical drive level. Even with high-stress enterprise deployments, the powerful MSM tools easily scale to efficiently configure, monitor and manage RAID volumes locally or over the LAN network.

Management Indicators

The MegaRAID SAS 84016E supports industry standard SGPIO, SES and also provides an option to directly drive sixteen LED fault and activity indicators. When disks do fail, these schemes provide visual assistance to quickly pin-point the faulty hardware.

Remote iBBU Support

The MegaRAID LSIiBBU01 is a battery backup module that protects the integrity of the cached data by providing power if there is a server failure or complete AC power failure. When power is restored, the data not yet written to the hard drives can be retrieved from cache memory. The LSIiBBU01 has added functionality to automatically charge the battery pack and communicate with the

host system the battery status, such as voltage, temperature and capacity.

The LSIiBBU01 does not connect directly to the MegaRAID SAS 84016E adapter, but instead it uses a supplied 20-pin, 10-inch cable to connect. Since server and workstation chassis vary from vendor to vendor, there is no standard mounting option that addresses all the desired applications. Therefore, the LSIiBBU01 battery kit contains the battery and the cable, allowing VARs and chassis manufacturers to customize the location of the remote battery to provide the most flexibility within various environments.

MegaRAID® SAS 84016E	
Solution Provided	Sixteen-port SAS solution for servers and storage appliances requiring high disk count direct attach storage. Also ideal for vertical applications that require the highest levels of sustained write and read performance including web servers, cluster servers, supercomputing, near-line backup and archival, security systems, pro audio and video applications, and other demanding storage applications that need high-bandwidth, high-capacity sequential performance.
Environment	Internal sub-systems with up to 122 SAS or SATA II drives
Physical Dimensions	Full-height, half-length (6.6" X 4.2")
Connectors	Four SAS SFF8087 x4 internal connectors
Device Support	Up to 122 devices supported
Host Bus Type	x8 lane PCI Express 1.0a compliant PCI Power Management Specification 1.1 compliant
Data Transfer Rates	Up to 3Gb/s per port
I/O Processor/SAS Controller	Intel IOP333 @ 500MHz/LSI SAS1068
Cache Memory	256MB DDR II SDRAM integrated
Battery Backup Unit	LSIiBBU01, an optional intelligent Battery Backup Unit and 20-pin, 10-inch cable for remote connection
RAID and Fault Tolerant Features	▪ RAID levels 0, 1, 5, and 6 ▪ RAID spans 10, 50 and 60 ▪ Online Capacity Expansion (OCE) ▪ Online RAID Level Migration (RLM) ▪ Auto resume after loss of system power during array rebuild or reconstruction (RLM) ▪ Configure stripe size up to 128k ▪ Fast initialization for quick array setup ▪ Check Consistency for background data integrity ▪ Patrol read for media scanning and repairing ▪ 64 logical drive support ▪ DDF compliant Configuration on Disk (COD ▪ 64-bit LBA (>2TB support) ▪ S.M.A.R.T support ▪ Direct connect up to 16 drives ▪ Connect up to 122 drives with expander support ▪ Up to 64TB LUN support ▪ Hot Spare support – Automatic rebuild – Global dedicated ▪ Enclosure management – SES (inband) – SGPIO (sideband) – Two 16-pin headers to illuminate fault LED
Operating Temperature	Maximum ambient: 50°C (40°C w/iBBU)
Operating Voltage	+3.3V
Warranty	3 years, free advanced technical support, advanced replacement option
Regulatory Certifications	EN55022, EN50082, EN60950; FCC Class A, Class B; UI1950; UL; CSA C22.2; VCCI; AS3548; BSMI; MIC
RAID Management	MegaRAID Management Suite ▪ MegaRAID Storage Manager ▪ MegaCLI (command-line interface) ▪ WebBIOS
OS Support	Extensive support includes Microsoft® Windows® Server 2003/2000/XP, Linux® and more. * Visit the LSI download Center for the most complete list of supported operating systems: *lsi.com/cm/support*

Warranty

For more than 15 years, LSI host adapters have been providing high-performance SCSI solutions to leading server, disk array and computer systems worldwide. Each host adapter carries a powerful chip built in LSI's ISO 9001-certified fabrication facilities. Using only the highest quality components, LSI host adapters are assembled and tested in world-class facilities to assure superior product reliability and performance. Because of stringent quality management programs, our host adapters carry a three-year limited warranty.

PCI EXPRESS™ Serial Attached SCSI

For more information and sales office locations, please visit the LSI web sites at: lsi.com lsi.com/contacts

North American Headquarters
Milpitas, CA
T: +1.866.574.5741 (within U.S.)
T: +1.408.954.3108 (outside U.S.)

LSI Europe Ltd.
European Headquarters
United Kingdom
T: [+44] 1344.413200

LSI KK Headquarters
Tokyo, Japan
Tel: [+81] 3.5463.7165

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